

REMARKS

Applicants respectfully request reconsideration of the present application in view of the reasons that follow. Applicants thank the Examiner for entering the amendments filed in the response to the Office Action dated June 3, 2009.

Claims 1-10 and 12-15 are pending in the application and are submitted for consideration.

Rejections under 35 U.S.C. § 102

Claims 1-2, 4, 6, 10, and 13-15 are rejected under 35 U.S.C. §102(b) as anticipated by U.S. Patent No. 5,718,976 (“Dorfman”).

A claim is only anticipated if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. (*Verdegaal Bros. v. Union Oil Co. of California*, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). See generally M.P.E.P. § 2131). Dorfman fails to satisfy the requirements of 35 U.S.C. § 102.

Dorfman does not disclose a three-layer system at all. As is clear from Figs. 1A, 1B, and 1C, the Dorfman design is not layered. Specifically, Dorfman fails to disclose, “a first intermediate layer, said first intermediate layer consisting of at least one of Ti, Cr, TiC, TiN, TiCN, CrN or Cr₃C₂; a second intermediate layer deposited on top of said first intermediate layer, said second intermediate layer comprising a diamond-like nanocomposite composition; and a diamond-like carbon layer deposited on top of said second intermediate layer,” as recited in claim 1.

Dorfman is directed to an erosion resistant coating formed from a diamond-like nanocomposite structure. (Dorfman, abstract). Dorfman discloses that diamond-like carbon films have been tried experimentally as protective coatings for IR windows but that the diamond-like carbon films have many disadvantages, which include having adhesion problems that do not occur with diamond-like nanocomposite structures. (Dorfman, col. 2, lines 18-50; col. 12, lines 1-3; Table 1). Dorfman discloses using a diamond-like nanocomposite structure and not a diamond-like carbon film because of the problems Dorfman identifies with diamond-like carbon films. In short, Dorfman discloses using only a diamond-like nanocomposite structure.

Dorfman, therefore, fails to disclose, “said second intermediate layer comprising a diamond-like nanocomposite composition; and a diamond-like carbon layer deposited on top of said second intermediate layer,” as recited in claim 1.

Dorfman discloses that the diamond-like nanocomposite structure of Dorfman may comprise two component networks, a diamond-like carbon-hydrogen network interpenetrated with a glass-like silicon-oxygen network, or three component networks, Si-O and C-H networks with one or more dopant networks. (Dorfman, col. 4, lines 60-67). The dopant may include B, Li, Na, Si, Ge, Te, O, Mo, W, Ta, Nb, Pd, Ir, Pt, V, Fe, Co, Mg, Mn, Ni, Ti, Zr, Cr, Re, Hf, Cu, Al, N, Ag, Au, TiN, BN, AlN, ZrN and CrN. (Dorfman, col. 5, lines 23-30). The dopant is part of the diamond-like nanocomposite structure. (Dorfman, col. 4, lines 46-67, Figs. 1B and 1C). The dopant is not a separate layer. Dorfman, therefore, fails to disclose a, “first intermediate layer consisting of at least one of Ti, Cr, TiC, TiN, TiCN, CrN or Cr₃C₂,” as recited in claim 1.

Independent claims 13 and 14 recite similar and/or analogous subject matter to claim 1 and are allowable at least for the same reasons that independent claim 1 is allowable. Claims 2, 4, 6, 10, and 15 depend from claim 1 or claim 14 and are allowable for at least the reasons set forth above, without regard to the further patentable subject matter contained in claims 2, 4, 6, 10, and 15. Reconsideration and withdrawal of the rejection of claims 1-2, 4, 6, 10, and 13-15 is respectfully requested.

Rejections under 35 U.S.C. § 103

Claims 1-2, 4, 6, 10, and 13-15 are rejected under 35 U.S.C. §103(a) as obvious over Dorfman. Claims 3 and 7 are rejected under 35 U.S.C. §103(a) as obvious over Dorfman in view of EP 0856592 (“Bekaert”). Claims 5, 7-9, and 12 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Dorfman.

As previously mentioned, Dorfman fails to disclose all the subject matter disclosed in independent claims 1 and 13-14. Claim 12 depends on claim 1 and is allowable at least for the same reasons that claim 1 is allowable. Bekaert fails to cure the deficiencies of Dorfman. Thus, neither Dorfman nor Bekaert (alone or in combination) disclose the subject matter of claims 1 and 13-14. Claims 2, 4, 6, 10, 12, and 15 depend from claim 1 or claim 14 and are allowable for at least the reasons set forth above, without regard to the further patentable

subject matter contained in claims 2, 4, 6, 10, 12, and 15. Reconsideration and withdrawal of the rejection of claims 1-10 and 12-15 is respectfully requested.

Conclusion

Applicants believe that the present application is now in condition for allowance. Favorable reconsideration of the application as amended is respectfully requested.

The Examiner is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance the prosecution of the present application.

The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 C.F.R. §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 19-0741. Should no proper payment be enclosed herewith, as by the credit card payment instructions in EFS-Web being incorrect or absent, resulting in a rejected or incorrect credit card transaction, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 19-0741. If any extensions of time are needed for timely acceptance of papers submitted herewith, Applicants hereby petition for such extension under 37 C.F.R. §1.136 and authorize payment of any such extensions fees to Deposit Account No. 19-0741.

Respectfully submitted,

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